



SHEET 1 OF 2

FORM PTO-1449 APR 29 2003 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. GNE.2930R1C3	APPLICATION NO. 10/032,996
		APPLICANT Botstein, et al.	
		FILING DATE December 27, 2001	GROUP 1656

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
<i>h</i>	1	WO 00/04135	01/27/00	PCT				
<i>h</i>	2	DE 198 18 620	10/28/99	Germany				

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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
<i>h</i>	3	Database EMBL 'Online!' (1997-10-31) Strausberg, R.: "np74e04.s1 NCI_CGAP_Br2 Homo sapiens cDNA clone IMAGE: 1132062 3' Database accession no. AA 632131
	4	Fransen, et al., Identification of peroxisomal proteins by using M13 phage protein VI phage display: molecular evidence that mammalian peroxisomes contain a 2,4-dienoyl-CoA reductase, Biochem. J. 348:561-568 (1999)
	5	Comparison between Accession No. AAY87109 and SEQ ID NO: 23
	6	Comparison between Accession No. AAY87196 and SEQ ID NO: 23
	7	Comparison between Accession No. AA025266 and SEQ ID NO: 8
	8	Comparison between Accession No. AA024389 and SEQ ID NO: 8
	9	Comparison between Accession No. AX118905 and SEQ ID NO: 8
	10	Comparison between Accession No. CAC38526.1 and SEQ ID NO: 8
	11	Comparison between Accession No. AX070106 and SEQ ID NO: 6
	12	Comparison between Accession No. AAB40784 and SEQ ID NO: 6
<i>h</i>	13	Comparison between Accession No. AAC74993 and SEQ ID NO: 6

EXAMINER <i>h</i>	DATE CONSIDERED 3/17/01
*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 609; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	



SHEET 2 OF 2

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE  INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (USE SEVERAL SHEETS IF NECESSARY)	ATTY. DOCKET NO. GNE.2930R1C3	APPLICATION NO. 10/032,998
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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
<i>N</i>	14 Comparison between Accession No. AI373244 and SEQ ID NO: 6
<i>J</i>	15 Comparison between Accession No. AI366107 and SEQ ID NO: 6
<i>J</i>	16 Comparison between Accession No. AR052531 and SEQ ID NO: 12
<i>J</i>	17 Comparison between Accession No. W63967 and SEQ ID NO: 12
<i>J</i>	18 Comparison between Accession No. AAZ98060 and SEQ ID NO: 23
<i>J</i>	19 Comparison between Accession No. AI08845 and SEQ ID NO: 23
<i>J</i>	20 Comparison between Accession No. AAV88653 and SEQ ID NO: 23

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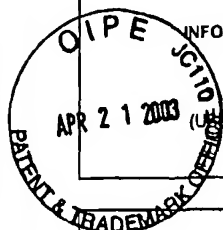
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FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.  
GNE.2930R1C3APPLICATION NO.  
10/032896INFORMATION DISCLOSURE STATEMENT  
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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (IF APPROPRIATE)
	1	5,831,058	11/03/98	Fujiwara et al.			

## FOREIGN PATENT DOCUMENTS

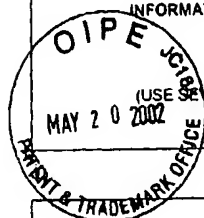
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	3	WO 00/04140	01/27/00	PCT				
	4	WO 00 58472	10/05/00	PCT				
	5	WO 01/29221	04/26/01	PCT				
	6	WO 01 02568	01/11/01	PCT				

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)		
N	7	Database EMBL 'Online! Entry HSA24389, 08/14/96, Hillier, L. et al., "ze74b01.r1 Soares_fetal_heart_NbHH19W Homo sapiens cDNA clone IMAGE: 364681 5', mRNA sequence." Database accession no. AA024389 XP002230500	
	8	Database EMBL 'Online! Entry HSA25266, 08/14/96, Hillier, L. et al. "ze74b01.s1 Soares_fetal_heart_NbHH19W Homo sapiens cDNA cline IMAGE:364681 3', mRNA sequence." Database accession no. AA025266 XP002230501	
	9	Database EMBL [Online] md78c02.r1 Soares mouse embryo NbME1cDNA clone (06/22/96) Marra et al., "The WashU-HHMI Mouse EST Protec" Database accession no. MM96732 XP002232923	
	10	Database EBI 'Online! (08/19/98) Strausberg R. "qa12e07.x1 NCI_CGAP_Brn23 Homo sapiens cDNA clone Image:1686564 3' similar to contains TAR1.b2 MSR1 repetitive element; mRNA sequence." Database accession no. AI088845 XP002226252	
	11	Database EMBL [Online] (01/11/99) Hillier, L. et al. "ao87d07.x1 Schiller meningioma Homo sapiens cDNA clone IMAGE:1952845 3' similar to contains element TAR1 repetitive element; mRNA sequence." Database accession no. AI366107 XP002230801	
	12	Database EMBL [Online] (01/13/99) Strausberg R. "qz48e01.x1 NCI-CGAP-Kid11 Homo sapiens cDNA clone IMAGE:2030136 3', mRNA sequence." Database accession no. AI373244 XP002230802	
	13	Klein, et al. Selection for genes encoding secreted proteins and receptors, Proc. Natl. Acad. Sci. USA 93:7108-7113 (1996)	
	14	Tashiro, et al., Signal sequence trap: a cloning strategy for secreted proteins and type 1 membrane proteins, Science 261:600-603 (1993)	

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*EXAMINER: INITIAL IF CITATION CONSIDERED, WHETHER OR NOT CITATION IS IN CONFORMANCE WITH MPEP 809; DRAW LINE THROUGH CITATION IF NOT IN CONFORMANCE AND NOT CONSIDERED, INCLUDE COPY OF THIS FORM WITH NEXT COMMUNICATION TO APPLICANT.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (USE SEVERAL SHEETS IF NECESSARY)		APPLICANT Botstein et al.	RECEIVED MAY 22 2002 TECH CENTER 1600/2900
		FILING DATE December 27, 2001	



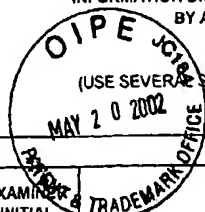
U.S. PATENT DOCUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS
N	1.	5,538,837	07/18/96	Jacobs		

FOREIGN PATENT DOCUMENTS						
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS

EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)	
N	2.	Akimaru et al. (1997) Drosophila CBP is a co-activator of cubitus interruptus in hedgehog signalling. Nature. 386:735-738.
	3.	Alcedo et al. (1996) The drosophila smoothened gene encodes a seven-pass membrane protein, a putative receptor for the hedgehog signal. Cell. 86:221-232.
	4.	Alexandre et al. (1996) Transcriptional activation of hedgehog target genes in drosophila is mediated directly by the cubitus interruptus protein, a member of the GLI family of zinc finger DNA-binding proteins. Genes & Development. 10:2003-2013.
	5.	Apelqvist et al. (1997) Sonic hedgehog directs specialised mesoderm differentiation in the intestine and pancreas. Current Biology. 7:801-804.
	6.	Bellusci et al. (1997) Involvement of sonic hedgehog (Shh) in mouse embryonic lung growth and morphogenesis. Development. 124:53-63.
	7.	Bitgood et al. (1996) Sertoli cell signaling by desert hedgehog regulates the male germline. Current Biology. 6(3):298-304.
	8.	Busson et al. (1988) Genetic analysis of viable and lethal fused mutants of drosophila melanogaster. Roux's Arch. Dev. Biol. 197:221-230.
	9.	Chen et al. (1996) Dual roles for patched in sequestering and transducing hedgehog. Cell. 87:553-563.
	10.	Chiang et al. (1996) Cyclopia and defective axial patterning in mice lacking sonic hedgehog gene function. Nature. 383:407-413.
	11.	Chidambaram et al. (1996) Mutations in the human homologue of the Drosophila patched gene in Caucasian and African-American nevoid basal cell carcinoma syndrome patients. Cancer Research. 56:4599-4601.
	12.	Dominguez et al. (1996) Sending and receiving the hedgehog signal: control by the drosophila Gli protein cubitus interruptus. Science. 272:1621-1625.
	13.	Echelard et al. (1993) Sonic hedgehog, a member of a family of putative signaling molecules, is implicated in the regulation of CNS polarity. Cell. 75:1417-1430.
	14.	Ericson et al. (1995) Sonic hedgehog induces the differentiation of ventral forebrain neurons: a common signal for ventral patterning within the neural tube. Cell. 81:747-756.
	15.	Fan and Tessier-Lavigne (1994) Patterning of mammalian somites by surface ectoderm and notochord: evidence for sclerotome induction by a hedgehog homolog. Cell. 79:1175-1186.
	16.	Gailani et al. (1996) The role of the human homologue of drosophila patched in sporadic basal cell carcinomas. Nature Genetics. 14:78-81.
	17.	Grau and Simpson (1987) The segment polarity gene costal-2 in drosophila. Developmental Biology. 122:186-200.
	18.	Hahn et al. (1996) Mutations of the human homolog of drosophila patched in the nevoid basal cell carcinoma syndrome. Cell. 85:841-851.
	19.	Hooper and Scott (1989) The drosophila patched gene encodes a putative membrane protein required for segmental patterning. Cell. 59:751-765.

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EXAMINER INITIAL	OTHER DOCUMENTS (INCLUDING AUTHOR, TITLE, DATE, PERTINENT PAGES, ETC.)
✓	20. Hynes et al. (1995) Induction of midbrain dopaminergic neurons by sonic hedgehog. <i>Neuron</i> . 15:35-44.
✓	21. Hynes et al. (1997) Control of cell pattern in the neural tube by the zinc finger transcription factor and oncogene Gli-1. <i>Neuron</i> . 19:15-26.
✓	22. Ingham (1995) Signalling by hedgehog family proteins in drosophila and vertebrate development. <i>Current Opinion in Genetics and Development</i> . 5:492-498.
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✓	24. Johnson et al. (1994) Ectopic expression of sonic hedgehog alters dorsal-ventral patterning of somites. <i>Cell</i> . 79:1165-1173.
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✓	27. Krauss et al. (1993) A functionally conserved homolog of the drosophila segment polarity gene hh is expressed in tissues with polarizing activity in zebrafish embryos. <i>Cell</i> . 75:1431-1444.
✓	28. Knshman et al. (1997) Mediation of sonic hedgehog-induced expression of COUP-TFII by a protein phosphatase. <i>Science</i> . 278:1947-1950.
✓	29. Laufer et al. (1994) Sonic hedgehog and Fgf-4 act through a signaling cascade and feedback loop to integrate growth and patterning of the developing limb bud. <i>Cell</i> . 79:993-1003.
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✓	31. Mariño et al. (1996) Biochemical evidence that patched is the hedgehog receptor. <i>Nature</i> . 384:176-179.
✓	32. Marti et al. (1995) Requirement of 19K form of sonic hedgehog for induction of distinct ventral cell types in CNS explants. <i>Nature</i> . 375:322-325.
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✓	34. Nüsslein-Volhard et al. (1984) Mutations affecting the pattern of the larval cuticle in drosophila melanogaster. <i>Roux's Arch. Dev. Biol.</i> 193:267-282.
✓	35. Orenic et al. (1990) Cloning and characterization of the segment polarity gene cubitus interruptus dominant of drosophila. <i>Genes &amp; Development</i> . 4:1053-1067.
✓	36. Oro et al. (1997) Basal cell carcinomas in mice overexpressing sonic hedgehog. <i>Science</i> . 276:817-821.
✓	37. Perrimon (1995) Hedgehog and beyond. <i>Cell</i> . 80:517-520.
✓	38. Pham et al. (1995) The suppressor of fused gene encodes a novel PEST protein involved in drosophila segment polarity establishment. <i>Genetics</i> . 140:587-598.
✓	39. Préal et al. (1990) A putative serine/threonine protein kinase encoded by the segment-polarity fused gene of drosophila. <i>Nature</i> . 347:87-89.
✓	40. Préal (1992) Characterization of suppressor of fused, a complete suppressor of the fused segment polarity gene of drosophila melanogaster. <i>Genetics</i> . 132:725-736.
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✓	42. Riddle et al. (1993) Sonic hedgehog mediates the polarizing activity of the ZPA. <i>Cell</i> . 75:1401-1416.
✓	43. Roberts et al. (1995) Sonic hedgehog is an endodermal signal inducing Bmp-4 and Hox genes during induction and regionalization of the chick hindgut. <i>Development</i> . 121:3163-3174.
✓	44. Robbins et al. (1997) Hedgehog elicits signal transduction by means of a large complex containing the kinesin-related protein costal2. <i>Cell</i> . 90:225-234.
✓	45. Roelink et al. (1995) Floor plate and motor neuron induction by different concentrations of the amino-terminal cleavage product of sonic hedgehog autoproteolysis. <i>Cell</i> . 81:445-455.
✓	46. Simpson and Grau (1987) The segment polarity gene costal-2 in drosophila. <i>Developmental Biology</i> . 122:201-209.
✓	47. Sisson et al. (1997) Costal2, a novel kinesin-related protein in the hedgehog signaling pathway. <i>Cell</i> . 90:235-245.

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✓	48. Stone et al. (1996) The tumour-suppressor gene patched encodes a candidate receptor for sonic hedgehog. <i>Nature</i> . 384:129-134.
✓	49. Théron et al. (1996) Functional domains of fused, a serine-threonine kinase required for signaling in drosophila. <i>Genetics</i> . 142:1181-1198.
✓	50. Théron et al. (1996) Phosphorylation of the fused protein kinase in response to signaling from hedgehog. <i>Proc. Natl. Acad. Sci. USA</i> . 93:4224-4228.
✓	51. Unden et al. (1996) Mutations in the human homologue of drosophila patched (PTCH) in basal cell carcinomas and the gorlin syndrome: different in vivo mechanisms of PTCH inactivation. <i>Cancer Research</i> . 56:4562-4565.
✓	52. Van den Heuvel and Ingham (1996) Smoothened encodes a receptor-like serpentine protein required for hedgehog signalling. <i>Nature</i> . 382:547-551.
✓	53. Wicking et al. (1997) Most germ-line mutations in the nevoid basal cell carcinoma syndrome lead to a premature termination of the PATCHED protein, and no genotype-phenotype correlations are evident. <i>Am. J. Hum. Genet.</i> 60:21-26.
✓	54. Xie et al. (1998) Activating smoothened mutations in sporadic basal-cell carcinoma. <i>Nature</i> . 391:90-92.
✓	55. Database search, Locus list: hum (349, 801 seqs, 66, 964, 548 aa), Mon Jan 7 16:12:49 2002 [BLASTP 2.2.1 [Jul-12-2001], NCBI] 2 pp.
✓	56. Database search, Locus list: hum - est (1, 803, 435 seqs, 6, 559, 376, 613 bp), Tue Jan 8 09:15:52 2002 [BLASTN 2.2.1 [Jul-12-2001], NCBI] 8 pp.

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